

REMARKS

Claims 1-23 are pending.

Claim Objections

Claim 2 is patentable under 37 C.F.R. 1.75(c) as being of proper dependent form.

Claim 2 is objected to for being of improper dependent form for failing to further limit the subject matter of claim 1. Applicants disagree and submit that claim 2 further limits the subject matter of claim 1 and hence, is in proper dependent form. Claim 1 states, “forming an insulating layer...” and claim 2 further limits this feature of claim 1 by stating, “forming the insulating layer further comprises depositing the insulating layer...” The phrase “forming” is broader than the phrase “depositing” and therefore, claim 2 further narrows a feature of claim 1. For example, “forming” can include processes other than depositing, such as thermal growth.

The Office Action states, “The limitation of claim 2 already exists in claim 1.” While it is correct that if someone deposits an insulating layer they will infringe both claims 1 and 2. However, this is not the test of a proper dependent claim because infringement of a dependent claim is also infringement of its independent claim, which is broader. But, because claim 2 further limits the phrase “forming the insulating layer...” of claim 1, claim 2 is in proper dependent form.

Claims Rejections

Claims 1-22 are patentable under 35 U.S.C. 112, first paragraph as having a disclosure which is enabling.

Applicants respectfully submit that this 112, first paragraph rejection as to lack of enablement is improper and should be withdrawn.

The Office Action contends that “Reflowing the insulating layer at atmospheric pressure is critical or essential to the practice of the invention, but not included in the claim(s)...” and further contends, [B]ut clearly at page 10 of the specification, paragraph [0046], to seal the opening it’s necessary that the insulating layer be reflowed at atmospheric pressure using anneal process.” Thus, the Office Action asserts that a feature which is taught as critical in the specification is not recited in the claims. Applicants submit this is incorrect. Neither reflowing the insulating layer nor reflowing using an anneal process are critical or essential. As explained in paragraph [0046] of Applicants’ specification reflowing using an anneal process is just one

embodiment. (“To merge the disconnected portions of the reflowable layer 51 and seal the hole 43, the reflowable layer 51 is reflowed in a pressure approximately equal to atmosphere, **in one embodiment** using an anneal process. (Emphasis added.)) Furthermore, in paragraph [0047] of Applicants’ specification it is explained how a process that does not include a reflow or anneal may be used to deposit the seal layer 52 at atmospheric pressure to seal the hole 43. Therefore, reflowing or reflowing using an anneal process are just examples of “forming an insulating layer over the layer at approximately atmospheric pressure to seal the opening,” as claimed. At best reflowing or reflowing using an anneal process is a preferred embodiment or feature. The MPEP clearly states that preferred features are not considered critical. (MPEP 2164.08(c)). For at least the above reasons, this rejection is improper and should be withdrawn.

Furthermore, Applicants are confused as to why this rejection was not presented in the previous Office Action, as this rejection cannot result from any amendments made by Applicants since none have been made. “In accordance with the principles of compact prosecution, if an enablement rejection is appropriate, the first Office Action on the merits should present the best case with all the relevant reasons, issues, and evidence so that all such rejections can be withdrawn if applicant provides appropriate convincing arguments and/or evidence in rebuttal.” MPEP 2164.04.

Claims 1, 2, 4, 9 and 11 are patentable under 35 U.S.C. 102(b) over Razouk (5,911,109).

Applicants respectfully submit claims 1, 2, 4, 9, and 11 are patentable under 35 U.S.C. 102(b) over Razouk because Razouk fails to teach all features of at least independent claim 1 from which claims 2, 4, 9, and 11 depend. For example, Razouk fails to teach “forming an insulating layer over the layer at approximately atmospheric pressure to seal the opening.” The Office Action disagrees and submits that Razouk teaches this feature in column 1, lines 57-65. In column 1, lines 51 – 65, Razouk teaches forming a trench lining, filling the remainder of a trench opening with a glass material, reflowing the glass at atmospheric pressure to prevent voids, and then planarizing the glass material. The Office Action submits that Razouk’s reflowing of the glass to prevent voids is “forming an insulating layer over the layer at approximately atmospheric pressure to seal the opening.” Applicants disagree. Razouk is not teaching “forming an insulating layer...to seal the opening.” The Office Action contends that sealing would be inherent in Razouk’s process of reflowing the glass at atmospheric pressure. This is incorrect. First, Razouk is teaching filling the remainder of the trench opening with the glass material and when a trench opening is filled with a material, the opening is not sealed because there is no more opening. Instead, the opening is filled with the trench material. In contrast, as described in

Applicants' specification to seal an opening means that an opening (e.g. gap 50 in FIGs. 13) remains. No opening or gap remains in Razouk. Therefore, Razouk fails to teach "forming an insulating layer...to seal the opening."

Furthermore, Razouk teaches away from "forming an insulating layer over the layer at approximately atmospheric pressure to seal the opening" because Razouk teaches reflowing at approximately atmospheric pressure to prevent voids. In contrast, Applicants want an opening and thus Razouk teaches away from "forming an insulating layer...to seal the opening" because Razouk teaches filing the opening as much as possible.

For at least these reasons, claims 1, 2, 4, 9 and 11 are patentable under 35 U.S.C. 102(b) over Razouk.

Furthermore, the claims are patentable over Razouk in all regards because Razouk fails to suggest "forming an insulating layer over the layer at approximately atmospheric pressure to seal the opening" because, as discussed above, Razouk teaches reflowing the insulating layer to prevent voids not to seal the opening. Therefore, , claims 1, 2, 3, 9 and 11 are patentable under 35 U.S.C. 102(b) over Razouk in all regards.

Claims 3, 5-8 are patentable under 35 U.S.C. 103(a) over Razouk (5,911,109).

As discussed above and not repeated for brevity, Razouk fails to teach or suggest all feature of at least independent claim 1 from which claims 3, and 5-8 depend. Therefore, for at least these reasons claims 3 and 5-8 are patentable over Razouk under 35 U.S.C. 103(a).

Furthermore, Applicants wish to point out to that the Office Action repeatedly improperly states that "The Examiner takes judicial notice..." Only judicial officers (not Examiners) can take judicial notice. Examiners instead can take official notice. Applicants submit that this is an error and understand that "official notice" should replace all instances of "judicial notice." (See MPEP 2144.03).

In addition, Applicants wish to point out and reserve for later comment, if necessary, that even if depositing an insulating layer using CVD is well known, it is the invention as a whole that must be taught or suggested by the prior art. (MPEP 2141.02). For example, would one of ordinary skill in the art know how to perform CVD to form an insulating layer over the layer at approximately atmospheric pressure to seal the opening?

In addition, although the Office Action contains additional statements characterizing the claims, the specification, previous arguments, or the prior art Applicant refuses to subscribe to

any of these statements, unless expressly indicated by Applicant regardless of whether such statements are addressed by Applicant.

Applicants earnestly solicit allowance of all pending claims. Please contact Applicant's practitioner listed below if there are any issues that can be resolved by telephone.

Respectfully submitted,

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